

expected to start making isobutanol in late Sep 2009.

Ethanol Producer Magazine, Oct 2009 (Website: <http://www.ethanolproducer.com/>)

## Industrial biotechs accelerate drive to leverage glycerol

Industrial biotechs are speeding up the push to develop technologies for converting glycerol into ethanol and other end-products. Development initiatives are focused on using glycerol to boost the output yields of ethanol plants. US firm Glycos Biotechnologies Inc (GlycosBio) has come up with a biotransformation technology that directs the glycerol from the distillation column in the whole stillage into ethanol at high output efficiency. The technology involves the use of biocatalysts.

Ethanol Producer Magazine, Oct 2009 (Website: <http://www.ethanolproducer.com/>)

## Qteros microbe achieves unprecedented ethanol outputs

US firm Qteros' Q Microbe complete cellulosic conversion technology achieved record outputs of 70 grams of ethanol per litre of fermentation broth, or 9% ethanol by volume, in lab experiments. 50 grams per litre is believed to be the threshold for commercial production. Qteros claims that the unprecedented lab results make its single-step technology the most cost-effective process so far.

Ethanol Producer Magazine, Oct 2009 (Website: <http://www.ethanolproducer.com/>)

## Waste-to-ethanol projects move forward

A number of waste-to-ethanol projects have gained momentum in recent months. The project that California-based Fulcrum BioEnergy Inc is developing involves a proprietary gasification technology for the production of ethanol from synthesis gas (syngas). The technology converts post-recycled municipal solid waste (MSW) into syngas, which is used to produce ethanol via a proprietary catalytic technology. The company has successfully demonstrated its catalytic technology at its TurningPoint Ethanol Plant, a pilot plant in North Carolina.

Ethanol Producer Magazine, Nov 2009 (Website: <http://www.ethanolproducer.com/>)

## Ineos Bio to make fuel ethanol from household waste

According to Ineos Bio (a subsidiary of Ineos Technologies and part of the UK Ineos group), within the next 2 years cars will be running on fuel obtained from household waste. Ineos Bio was created on 1 Jul 2008 to market second generation bioethanol technology. 1 tonne of dry waste can be converted into 400 litres of ethanol using Ineos Bio's thermochemical and biochemical technology. Developed in Fayetteville, AR, and tested at the pilot level, this anaerobic fermentation technology has enormous potential. A commercial scale unit could be built within the next 2 years.

Chimie Pharma Hebdo, 9 Nov 2009, (485), 8 (in French)

## From oil to margarine; enzymes ensure trans-fat-free products

The Venezuelan oils and fat manufacturer Alimentos Polar has collaborated with DeSmet Ballestra and Novozymes for the introduction of enzyme interesterification as an alternative to chemical interesterification for the production of fats and margarine. DeSmet and Novozymes have developed a series of pilot reactors. DeSmet Ballestra supplies the engineering know-how and equipment, and Novozymes supplies the enzymes. This allows companies to evaluate the process before implementing it on a large scale.

Novozymes is the only company in the world that provides enzymes for interesterification. The close cooperation with DeSmet Ballestra to develop a plug & play solution that speeds up the implementation of an alternative way of interesterifying oils has resulted in a unique combination of enzyme and engineering expertise. In 2008 Novozymes won the Euro Fed Lipid Technology Award for having taken a lab solution to full-scale industrial implementation.

BioTimes (Novozymes' Enzyme e-zine), Sep 2009 (Novozymes A/S, Krogshoejvej 36, 2880 Bagsvaerd, Denmark. Tel: +45 8824 9999. Fax: +45 8824 9998. Website: <http://www.novozymes.com/biotimes>)

## Rokospol produces the photocatalytic-active coating DETOXY COLOR

Rokospol (Czech Republic), construction chemicals and coatings

producer, started to produce the photocatalytic-active coating DETOXY COLOR. It finished its development in 2008. It cooperated with the Institute of Inorganic Chemistry of the Academy of Science of the Czech Republic during the development. DETOXY COLOR's application allows to reduce emission concentration in the air thanks to an active substance which is the special photocatalytic titanium dioxide. Organic substances are reduced to water and carbon dioxide after interaction with the photocatalytic agent.

Technicky Tydenik, 24 Nov 2009, 57 (24), 14 (in Czech)

## CO<sub>2</sub> Solution announces significant enzymatic carbon capture results

CO<sub>2</sub> Solution Inc has achieved significant results when applying its patented genetically engineered and thermally optimised '5X' carbonic anhydrase enzyme to CO<sub>2</sub> capture with certain carbonate and amine absorbent solutions. In tests with low-energy absorbent solutions, the use of the enzyme increased the CO<sub>2</sub> reaction rate by more than 50 fold. These results once again point to the potential of the enzyme to substantially lower the capital and operating costs for carbon capture from coal-fired power plants and other large industrial emitters. The testing was carried out in collaboration with CO<sub>2</sub> Solution's process partner, Procede Group BV, a leading chemical engineering firm.

Press release from: CO<sub>2</sub> solution Inc, 2300 rue Jean Perrin, Quebec, Canada G2C 1T9. Tel: +1 418 842 3456. Fax: +1 418 842 1732. E-mail: [info@CO2solution.com](mailto:info@CO2solution.com). Website: <http://www.CO2solution.com> (25 Nov 2009)

## Iron-based catalyst to replace cobalt carboxylates

Rahu Catalysts, a UK-based company, has come out with an iron-based catalyst complex FeONIX. This catalyst is used as a replacement to the cobalt carboxylates which act as drying agents in alkyd coating formulations. This new oxidative drying technology is been put to action by OM, a US speciality chemical company. The FeONIX complex is also been proved to be useful in inks and as polymerization additives for composites.

Chemical Engineering World, Aug 2009, 44 (8), 26